

The State Disaster Management Plan

Section- III

DISASTER RESPONSE

“—the readiness is all”

—William Shakespeare

9. Disaster Response

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9. Disaster Response

The State of Bihar is prone to all major hazards, both natural and man-made—flood, drought, earthquake, fire, cyclonic storm, industrial & chemical accidents and epidemics—but mainly suffers regularly from the ravages of flood and menaces of drought, fire & cyclonic storm. Out of 38 districts in the State almost all of them are susceptible to disaster caused by one hazard or another.

In such a State, which is virtually a house of hazards, RESPONSE has to be necessarily a well-organized and well-orchestrated act which entirely depends upon four key elements: first, the kind of Disaster Response system within the framework of State Disaster Management Plan is in place; second, the kind of prevention and mitigation measures have been taken; third, the sort of incident management preparedness is at disposal and fourth, the kind of grooming persons manning the system have received.

9.1 The State Disaster Management System

The Disaster Management System within the framework of the State Disaster Management Plan has been designed to serve pre-, during-, and post-disaster concerns with varying permutation and combination of organizational setups. With the National Disaster Management Authority along with National Institute of Disaster Management and National Disaster Response Force at the top of the system, similar bodies have been envisaged at the State level. The State level Authority shall operate through the State Executive Committee with the support of Bihar State Institute of Disaster Management and the Government Departments and other stakeholders operate through the Department of Disaster Management with the support of the State Emergency Operation Centre.

At the State level other stakeholders that have been provided space in the system are: the Multilateral Agencies, Corporate Bodies and International and National level NGOs and Civil Societies.

At the district level, the District Disaster Management shall operate through the District Emergency Operation Centre, with the support of local bodies along with local NGOs and community based organizations.

A system is a conglomeration of institutions and setups that are orchestrated from a definite point of view. Here, the point of view being disaster management

consisting of prevention & mitigation, preparedness and response the *State Disaster Management System* (SDMS) has been designed to address, to a large extent, each one sequentially and not simultaneously. Besides, the subject (disaster) being basically uncertain in character, its extent and scale being unpredictable, the system provides for the maximum of vertical and horizontal outreach from State to Gram Panchayat and Govt. Department to NGO.

The institutions and setups in SDMS have been made multi-purpose and thereby, both human resource and cost wise, economical. The team of well-groomed personnel engaged in responding to a disastrous incident also gets engaged in preparedness and mitigation measures during pre-disaster period. Such an arrangement is bound to bring about consistency, continuity, commitment and comprehensive understanding about disaster in the personnel involved so that they play their designated roles in during disaster situations with relative understanding and compassion.

The apex body in the disaster management system is the *State Disaster Management Authority* (SDMA) headed by the Hon'ble Chief Minister as the Chairman, Chief Secretary and three others as members. One of the members has been appointed as the Vice-Chairman.

The *State Authority* shall have the support of *Bihar State Institute of Disaster Management* for providing inputs to formulate guidelines on prevention, mitigation, preparedness, and Research and Development on vulnerability management related issues.

The prime executive body for disaster management at the state level is as per the Act, the *State Executive Committee* (SEC) headed by the Chief Secretary. The *State Executive Committee* shall function through *Disaster Management Department* (DMD) and other line departments.

The *State Emergency Operation Centre* (SEOC) shall operate on round the clock basis and be the *Command Centre* during disaster response period. It shall function as the data collection, programme monitoring and response providing centre for Disaster Management Department and cautioning and warning centre for the people at large. It shall be fully equipped centre with the best of gadgets and equipments.

A *Shadow* SEOC shall be located in the State Police Headquarter building which is being constructed in Patna. If the SEOC becomes dysfunctional, the

Shadow Centre shall also function as SEOC for providing material support for relief and rehabilitation.

The State Govt. has already resolved to setup **State Disaster Response Force** (SDRF) on the pattern of NDRF. SDRF shall be, hazard specific, that is, separate force for Earthquake, Flood, Fire, Drought and Cyclonic Storm. SDRF, in association with NDRF, shall also prepare Civil Defence, Home Guard, Fire Brigade, Police, BMP and local youth in disaster response. They shall be trained to equip Gram Panchayat and communities with necessary skill of self-help which is the first help one is forced to bank upon at the time of disaster.

The **Bihar State Institute of Disaster Management** (BSIDM) has been incorporated in the system to develop requisite understanding of hazards, gather information and knowledge identify and apply technologies and promote hazard specific research and development in the state. Besides, if the culture of living copingly with disaster and promoting hazards intonated development has to be initiated, then for that we need a specialized institution to support it. BSIDM shall develop and maintain close linkages with the multilateral agencies and corporate bodies both for getting associated with international bodies through them and for getting support at the time of incidents.

The main objectives of BSIDM shall be:

- ◆ Hazard mapping and vulnerability studies.
- ◆ Strengthening of information technology for Natural Disaster Management.
- ◆ Monitoring and impact assessment of natural hazards.
- ◆ Human Resource Development mainly by imparting training.
- ◆ Early Warning System.

The **District Disaster Management Authority** (DDMA) consisting of District Magistrate as Chairman & 'Adhyaksa,' Zila Parisad as Co-Chairman shall be over all incharge of response to L₁ level incident. It shall be an extended arm of Department of Disaster Management during responses to L₂ & L₃ level incidents. Since the Urban Local Bodies will play an equally important role, it is envisaged to make the Mayor/Chairman of the municipal bodies also as co-chairman of the Authority.

DDMA shall associate Local Bodies and Local Voluntary Organizations both in mitigation and preparedness as well as in incident management.

District Emergency Operation Centre (DEOC) shall be the **Control Room** for response to L₁ level incident and **Monitoring Centre** during pre-disaster

period. During L₂ & L₃ incident DEOC shall be onsite Control Room for SEOC. The centre will also be equipped like SEOC with appropriate gadgets and equipments. The structural layout of the DEOC prepared for NDM-Division, Ministry of Home Affairs, New Delhi considering all seismic zones, has been included in detail for consideration. (See page nos.162-165)

Keeping the larger interest in view the ***Sankalp Kendras*** at Gram Panchayat level have been visualised as a multi-purpose centre for wedding development project to disaster prevention, mitigation and preparedness measures and to enable communities to face the initial onslaught of a disaster on the strength of self-help and mutual help till the public-help arrived.

9.2 The Disaster Response Plan

Disaster response is a three-legged race against time. It requires co-ordinated and concerted efforts of three main functionaries at the state, district & community levels. The three main functionaries are the government machinery, the non-government organization and the affected communities. It involves three sets of activities: planning, mobilization & operationalisation.

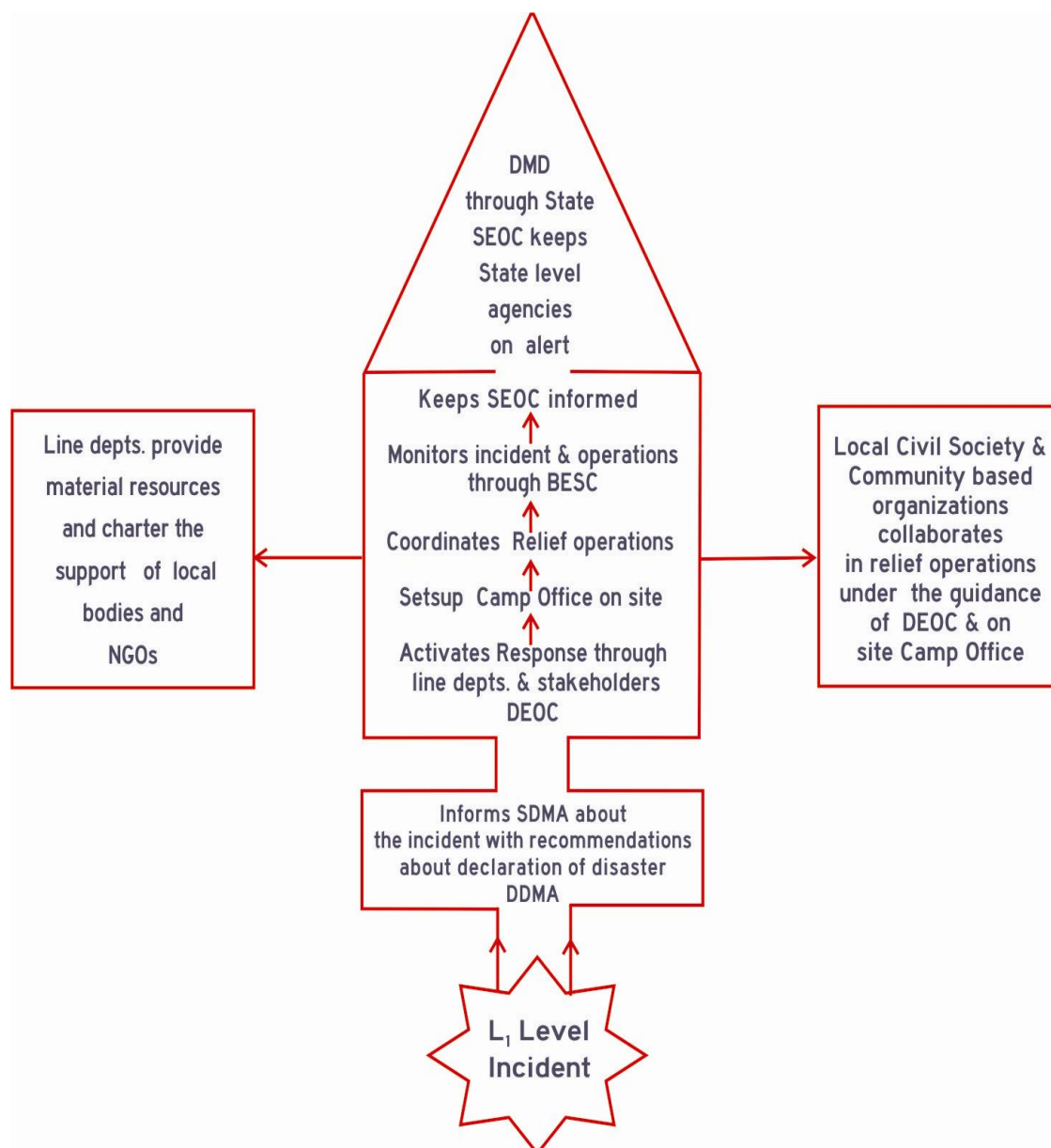
Disaster response shall require materials and logistics management, carrying out search and rescue operations, providing shelter and relief, caring for health and sanitations, communicating to a host of stakeholders, documenting and reporting. Each of these functions are highly specialized ones and require professionals to perform these roles. But the irony of the situation is that such professionals are few and far between. They shall have to be groomed and nurtured. This is a necessity as well as a compulsion for the State. Therefore, in line with the thinking of the State, specialized institutions, like SDRF and BSIDM have been included in the State Disaster Management System.

Disaster Response Plan structures the channelization of response down to the site of incident and from site of incident to command centre. It is the laddering of roles and responsibilities so that the response measures could be automatically taken on the basis of trigger mechanism.

Incident Response Matrix –L₁

In L₁ level disaster DDMA shall be the prime institution and District Magistrate the Incident Commander. DEOC shall become the Command Centre and Block/Anchal shall become on site centre to manage the operations.

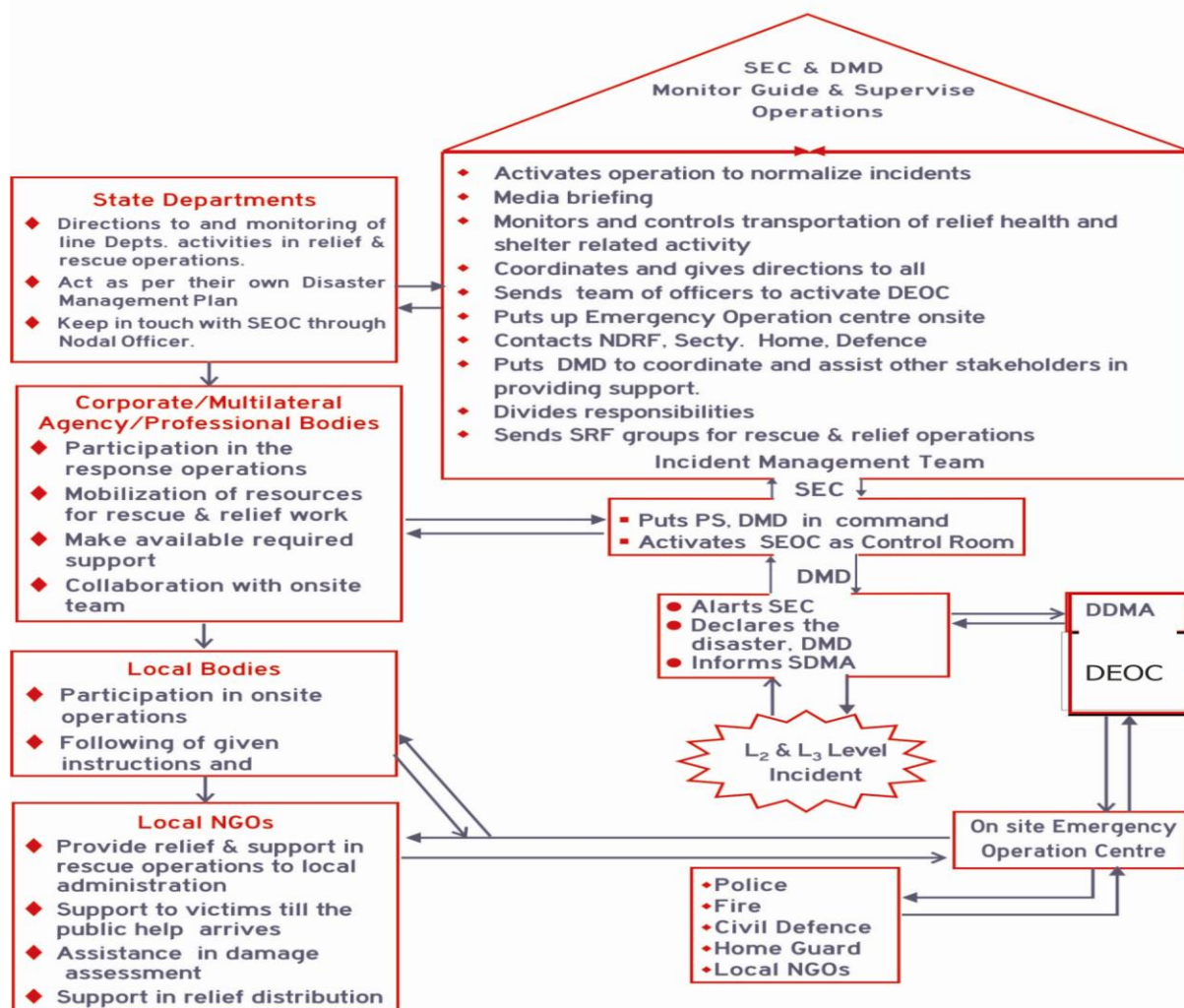
L₁ Level Disaster Response



In case of L₁ level incident the Disaster Response Plan shall emanate at the district level. The main respondents shall be: DDMA, DEOC, Block and Anchal. In this case the state level agencies shall remain in the state of preparedness. DDMA shall be over all incharge but DEOC with DM as Incident Commander, shall manage the operations.

In case of L₂ level incident the response shall emanate at the state level. The main respondents shall be: DMD, SEOC, DMD & SDRF & NDRF. In this case DMD shall be overall incharge but Chief Secretary /as chief of SEC/Principal Secretary, DMD shall manage the operations. The Centre level agencies shall be in readiness to respond.

Incident Response Matrix L₂ & L₃ (0 to 6hrs.)



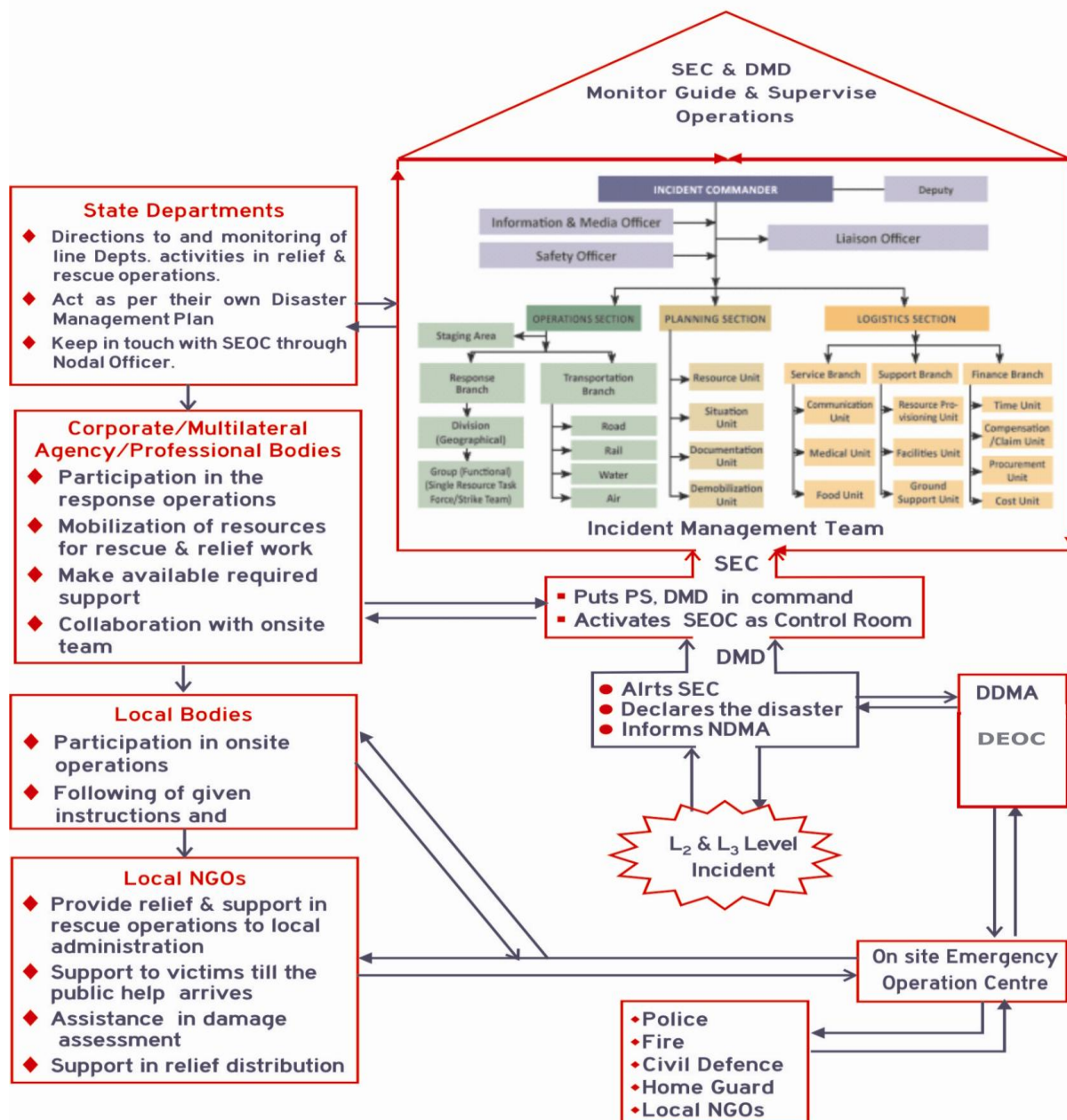
SDRF shall depute Emergency Support Groups to provide emergency support functions to the team already engaged onsite. Various departments shall provide resources and support for which DMD shall coordinate both at the state and at the district level.

In case of L₃ level incident the Disaster Response shall emanate at the state level but the respondents shall include NDMA, NDRF, Defense Ministry, Home Ministry and others Ministries of the central government.

Keeping the Central Agencies informed of the developments about the incident, measures having been taken and support specifically required, SEC together with DMD and other line departments, shall plan, execute, monitor and coordinate the response.

Incident Response Matrix L₂ & L₃ (After 6hrs.)

Incident Response Matrix L₂ & L₃ (After 6hrs.)



DMD shall coordinate the operations and liaise with NGOs, CBOs, corporate houses, professional bodies and others on donations and relief issues and organizing, receiving, safe-keeping and supplying the same for distributions among the victims. DMD shall also coordinate with various Govt. departments on response related issues and take care of the documentation of impact and damage assessment with the assistance of DDMA.

SEOC shall gather information, keep in touch with all centres, pass on directions to all concerned and provide feedback from field to the Incident Management Team.

The Disaster Response shall cover State, District, Block & Gram Panchayat and will consist of four main respondents:

- i) Crisis Management Group
- ii) Incident Management Team
- iii) Emergency Support Groups
- iv) Emergency Operation Centres
- v) Block/Anchal Emergency Support Centre

Each of the four respondents shall cohere and contribute in the disaster response in a concerted manner.

9.3 Crisis Management Group

The Crisis Management Group shall be headed by the Chief Secretary with Development Commissioner and Principal Secretaries/Secretaries of concerned department as members. It may also be supported by professionals, as the case may be, and special invitees depending upon the nature of the crisis and requirement of its management.

9.4 The Incident Management Team (IMT)

The Incident Management Team shall be constituted in the DMD with representatives of other line departments. It may be supported by professionals and experts.

IMT shall function under the guidance of Crisis Management Group/Chief Secretary and be the ultimate authority to direct operations and monitor development and allocate responsibilities. Led by the Incident Commander, who shall be the Chief Secretary/Principal Secretary, DMD, IMT shall have power to raise resources and support as per the need of the hour. The SEOC shall function as the Control Room and the centre of operations.

In case of L₁ level incident, the District Magistrate shall be the Incident Commander and shall constitute the Incident Management Team and the District Emergency Operation Centre shall function as the Control Room and the centre of operations.

In the event of L₂ level incident, the Principal Secretary, Disaster Management Department shall be the Incident Commander. The State Emergency Operation centre shall be the Control Room and the Centre of operations.

In the event of L₃ level incident, the Chief Secretary shall be the Incident Commander and the Crisis Management Group/State Executive Committee members shall comprise the Incident Management Team. The State Emergency Operation Centre shall be the Control Room and the Centre of Operations.

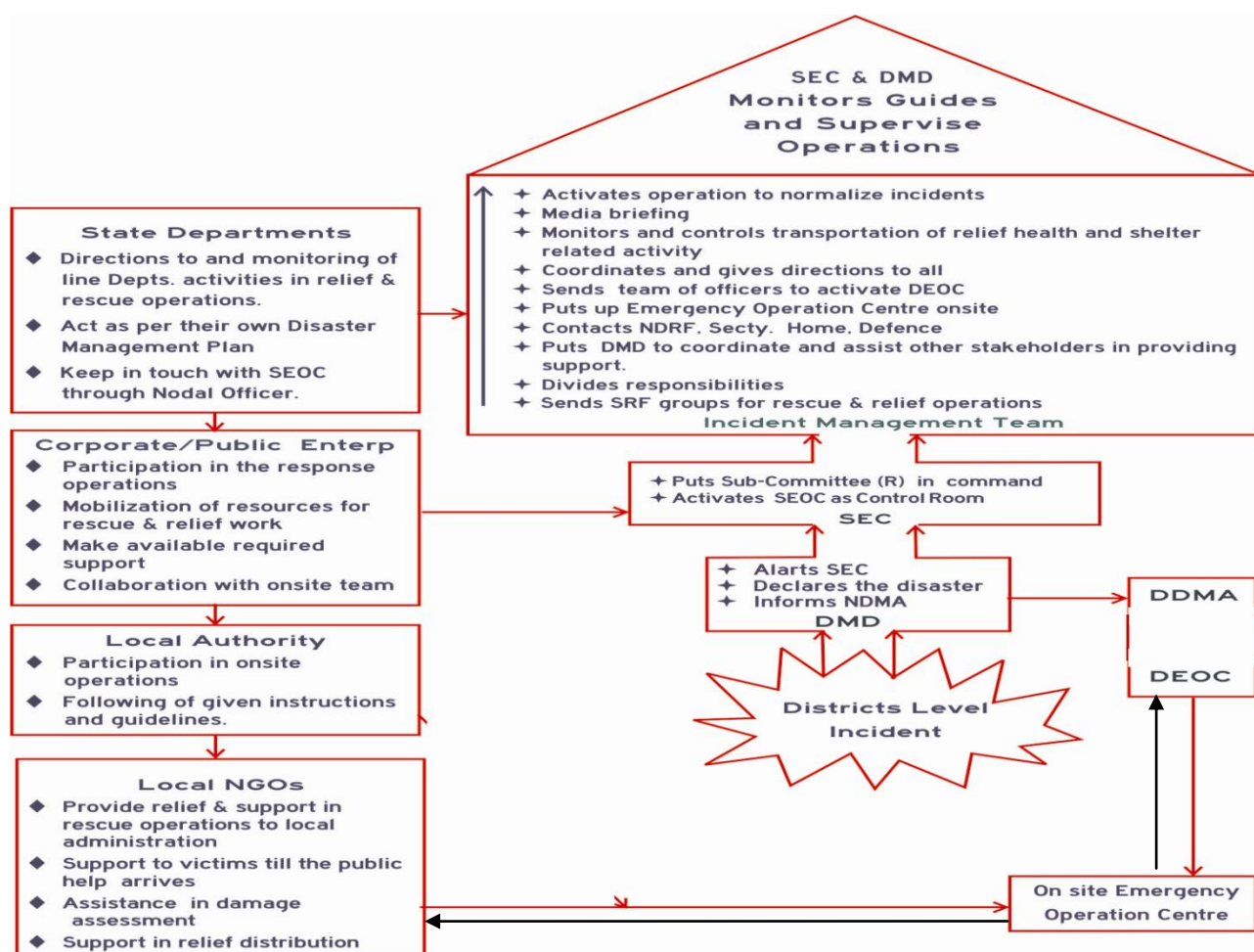
In all the three levels of incident, the common steps for IMT shall be:

The first response of the IMT shall be to assemble at EOC, take stock of the situation, inform the higher authorities and decide upon a line of action. (Planning)

In case of L₃ level incident the first couple of decisions to be taken shall be whether Divisional Commissioner shall be supervising the operations or someone from the state shall be positioned. And second, whether an Onsite Emergency Operation Centre shall be set up or District EOC shall be the Control Room for the Response Operations. Other decisions to be taken, inter alia, would be:

- Mobilization and dispatch of Emergency Support Groups for search & rescue etc. (in case of L₂ & L₃)
- Planning and Strategising response
- Organising support and resources—both material & human
- Constituting Operation Management Team and assigning responsibilities
- Organising damage assessment
- Briefing higher authorities and Media about the event in detail
- Monitoring relief distribution, shelter and health related issues.
- Coordinating required measures.
- Planning rehabilitation
- Keeping in touch with higher authorities
- Organizing documentation

Incident Command Structure –L₂ & L₃



9.5 The Emergency Support Groups

Disaster situation is a war situation. As in war, here also we have casualty and damages. Only that in disaster situation, we are at the receiving end and give only passive resistance in the form of saving lives, salvaging some damages, recreating all that was made, to build back better. With such a situation in view, fourteen emergency functions and well trained teams to carry out each function have been suggested. These teams have been called **Emergency Support Groups**.

Emergency Support Functions (ESF) constitute the backbone of Disaster Response Plan and consist of groups of persons groomed to provide specific assistance in a dedicated manner and with missionary zeal. They shall attend to all immediate needs of the victims, the area, the stakeholders, the district administration and the State. They shall respond to all the possible

requirements to mitigate the impact. They shall assess the damages done and take measures required to repair the damages and control the situation. Each of the Emergency Support Functions shall have a set of supporting departments, a set of functions in emergencies and in normal times. Given below are the function wise details under each head which may further be improved to suit a particular perception.

The fourteen Emergency Support Functions are:

- i. Communication
- ii. Search & Rescue
- iii. Relief & Shelter
- iv. Health & Sanitation
- v. Livestock Shelter & Fodder
- vi. Drinking Water & Supplies
- vii. Power
- viii. Transport
- ix. Public Works
- x. Removal & Clearances
- xi. Information Dissemination & Helpline
- xii. Damage Assessment
- xiii. Donation Management
- xiv. Media

(i) Communication :

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Dept. of Science & Technology 2. BSNL & other Services Provider 3. AIR / Television 4. Satellite phones 5. Mobile phones 6. SW/Ham Radio 7. Police Wireless	❖ To restore communication facilities after disaster. ❖ To provide emergency communication linking EOCs, IMT, ❖ To provide communication to communities ❖ To ensure communication facilities to support State and district	❖ To update hardware & software in communication technologies. ❖ Repair & maintenance of Early Warning Systems & Communication equipments ❖ Periodic checking of communication system among disaster related setups. ❖ Provide training at

	actions ❖ To coordinate the temporary communication requirements	GPEOC level in communication technologies
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(ii) Search & Rescue :

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Home Deptt. 2. Fire Deptt. 3. Civil Defense 4. NDRF 5. SDRF 6. BMP / Police 7. Army 8. Navy 9. Air Force	❖ To check the evacuation tools & equipment ❖ To work out evacuation Plan ❖ To establish linkages and coordination with camp office ❖ To carry drinking water and packed food, emergency medicine etc. for the victims. ❖ To prioritize evacuation of children, women, old, disabled etc. ❖ To avoid overloading .	❖ Repair and maintenance of evacuation tools and equipments ❖ Maintain fitness exercises ❖ Prepare teams of search and rescue operators at the district & Pahchayat level ❖ To maintain a list of and keep in touch with those whom you train.

(iii) Relief & Shelter

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Deptt. Foods & Civil Supplies 2. State Food Corporation 3. Associations and Clubs 4. Building Construction Department 5. Corporate Bodies 6. Voluntary organization	❖ To carry cooked dry, fast food materials in properly packaged form for immediate distribution. ❖ To organize the supply of drinking water ❖ To setup Shelter camps, Kitchen camps, mobilize volunteers for cooking, serving, washing etc. ❖ To organize Supply of food grains and vegetables ❖ To line up teams of local youths to carry those rescued to relief and shelter camps.	❖ Create Awareness and organize a system of saving food grains on household basis for emergency needs. ❖ Groom officers to maintain stock of fast food like chura & Sattu for at least three days at the Block level.

	❖ To maintain record of names, villages, Panchyat & blocks to which the victims belong ❖ To setup latrine & bathrooms ❖ To take special care of children, women, old and disabled, specially those separated from families. ❖ To setup disaster relief centre to receive, collect, sort out and distribute relief materials ❖ To organize proper supply chain to reach the same to victims.	
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(iv) Health & Sanitation

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Deptt. of Health 2. Government and Private Hospitals 3. Red Cross Society 4. Indian Medical Association 5. Voluntary Bodies	❖ To check the equipments & stock of medicines ❖ To teams formation of medical personnel ❖ To organize first aid providing team in larger number ❖ To organize mobile medical van to attended to emergency needs ❖ To carry medical camp setting facilities ❖ To establish trauma counseling desks ❖ To keep an eye on the possibilities of outbreak of epidemics ❖ To include locally available medical staff in health check up exercise.	❖ Checking and replacement medical kits/medicines. ❖ Procurement of more number of up Dated First Aid Kits ❖ Train young boys & girls at the Block, Panchayat and Community level in providing First Aid. ❖ Train young boys & girls in helping and carrying seriously injured.

	❖ To keep record of patients treated ❖ To visit shelter camps to keep an eye on sanitation and make adequate arrangements for the same.	
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(v) Livestock Shelter & Fodder

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Deptt. Of Animal Husbandry & Fisheries 2. Veterinary College & Hospital 3. Fodder Suppliers	❖ To setup feeding camp for animals at some distance from shelter for human beings ❖ To vaccinate the animal if not vaccinated earlier. ❖ To organize disposal of garbage. ❖ To mobilize veterinary team locally	❖ Vaccination of livestock camping at Gram Panchayat level ❖ To line up suppliers of fodder bricks during emergency. ❖ To enlist district wise veterinary doctors available with phone nos. ❖ To maintain stock of medicines needed in emergencies.

(vi) Drinking Water & Water Supplies

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. PHED 2. Civil Supplies 3. Mineral Water Manufacturers 4. Corporate bodies 5. Donar Agencies 6. Local NGOs	❖ To identify the sources to provide drinking water & restore supply. ❖ Restoration of well ❖ To install hand pumps ❖ To provide halogen tablets ❖ To distribute mineral water bottles of available in large stock.	❖ Installation of elevated hand pumps in identified shelter areas. ❖ Contact with corporate bodies for supply of water bottles during emergency. ❖ Raising of platform of wells and handpumps. ❖ Keeping a couple of set of water purifiers.

(vii) Power

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Deptt. Of Energy 2. Electricity Board 3. Dept. of Non-conventional Energy 4. Genset Suppliers	❖ To carry repair and maintenance kits for genset etc. ❖ To check electricity supply line and restore supply ❖ To organize alternative source to provide electricity ❖ To carry some genset of petrol, diesel, spare battery etc. ❖ To organize power supply to hospitals, shelter camps, kitchen, onsite EOC etc ❖ To carry candles, match boxes, solar lamp, petromax etc.	❖ Interaction with Electricity Board for keeping updated about generation and supply situation. ❖ Interaction with Non-Conventional Energy Dept. to get informed about possible source of electricity in emergency situation. ❖ To enlisting of suppliers of genset. ❖ Maintaining stock of solar lamp, petromax, candles , torches etc. with spare battery chargers.

(viii) Transport

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Deptt of Transport 2. Transport Agencies 3. Air force 4. Boat Owners 5. Ambulance service Providers	❖ To know loading and unloading point nearest to the incident site. ❖ To coordinate the transport requirements of the emergency support forces. ❖ To arrange transportation of relief and rescue materials. ❖ To coordinate and provide transport facilities to all support agencies ❖ To regulate the movement of traffic onsite ❖ To organize transportation of sick and wounded	❖ To keep updated the list of transport facility providers. ❖ To enlist the Ambulance service providers with phone nos. ❖ Alternative roadmap of the vulnerable areas in the state ❖ To enlist contact nos. of helicopter service providers. ❖ To have the list of boat owners number of boats their phone nos.

(ix) Public Works

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Public Works Deptt. 2. Road Construction Deptt. 3. Pul Nirman Nigam	❖ To restore the road connectivity ❖ To construct temporary bridges where required ❖ To organize repairing of health centre, schools, important buildings ❖ To undertake supervision and surveillance of construction works done.	❖ Storing of equipment and materials required in emergencies. ❖ Enlisting the Construction companies for support in need ❖ Have arrangement to borrow their manpower equipments , materials if needed

(x) Removal and Clearances

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Civil Defence 2. Home Guard 3. Municipalities 4. Scout & Guides 5. NCC 6. NYK	❖ To organize voluntaries for removal of dead bodies both human and animal ❖ To organize local force for clearing debris of building, bridges, road etc. for reconstruction ❖ To organize local for chopping and removing of fallen trees etc. ❖ To organize burning or burying of the dead bodies	❖ Keeping equipment like gas cutters, cranes etc in order. ❖ Enlisting truck owners. ❖ Enlisting workers in municipalities and grooming them to work as a team ❖ To keep regular interaction with them to get response at the time of emergencies .

(xi) Information Dissemination and Helpline

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Deptt of Information & Public Relations. 2. Scouts & Guides. 3. Media 4. College and	❖ To gather correct information from authorities onsite. ❖ To keep the list of persons recued with full details about each ❖ To keep the list of	❖ To get orientation in handling host of persons in extreme physical & mental hand ships ❖ To study books on psychology, public relations, mass

Universities	persons missing ❖ To keep the no. of dead bodies and the locations they have been put ❖ To keep a track of which team is positioned where ❖ To make use of the public address system to call any body ❖ To keep 5 to 6 scouts around to provide escort services. ❖ To schedule working in short duration shifts	communication for having proper mind set. ❖ To cultivate maintaining cool in extreme conditions.
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(xii) Damage Assessment:

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Disaster Management Department 2. Deptt of Agriculture 3. Deptt. Of Rural Development 4. Deptt. Urban Development 5. Public Works Deptt. 6. Deptt. Of Animal Husbandry	❖ To have the format of the damage assessment format in mind. ❖ Affected ❖ Block ❖ Panchayat ❖ Population ❖ Human lives lost ❖ Livestock lost ❖ Resources damaged ❖ Infrastructure damaged roads, bridges Schools hospitals, Govt. Buildings electric supply, water supply ❖ Crops, orchards ❖ Synthesized Assessment	❖ Developing tools & for technique for Rapid Damage Assessment ❖ Identification & Training of Manpower for Damage Assessment

(xiii) Donation Management

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Disaster Management Dept. 2. Dept. of Supplies 3. State Warehousing Corporation 4. Cooperative Dept.	❖ To set up donation management camp onsite ❖ To create three centres ❖ Fund ❖ Relief ❖ Services ❖ To carry receipts Stamps etc. for cash / cheque / draft ❖ To identify storage centre for receiving relief materials for storing, packing and proper distribution of the same ❖ To keep records of supplies sent, with whom and when ❖ To post volunteers required, and take care of their basic needs : food and rest etc.	❖ Providing orientation in human resource and materials management to NGOs works ❖ Train them in material handling, packing and distribution.

(xiv) Media

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Dept. of Information & Public Relations 2. Disaster Management Department	❖ Organize media briefing by senior officer incharge ❖ Provide graphic and statistical details to the extent possible ❖ Organize visit to shelter, relief and various activity camps. ❖ Organize briefing on daily basis preferably in evening	❖ Development of Pamphlets/ Literature for disaster Awareness ❖ Educating people about hazards.

	❖ Make the media men interact with other Emergency Functionaries if possible.	
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(xv) Law and Order:

Supporting Deptt.	Emergency Functions	Normal Time Functions
1. Dept. of Home Affairs 2. District Administration	❖ Posting of Police Home Guard, Civil Defence forces in strategic places ❖ Deputing a magistrate to keep vigil and give necessary orders.	

9.6 The State Emergency Operation Centre (SEOC)

The State Emergency Operation Centre has been located in the premises of Old Secretariat Patna where all important departments dealing with disaster management and Chief Secretary's office is located. It has been specifically designed to meet the requirements of round-the-clock operations.

SEOC shall be the nucleus of State Disaster Management System. It has been designed to function as Control Room during emergencies and Monitoring Centre during normal days.

As a Control Room SEOC shall be the seat of Incident Command for which it shall be suitably equipped and manned.

As a Monitoring Cell, SEOC shall be an exchange of data collection, processing and dissemination.

The Emergency Support Groups would be located in the SEOC and perform their functions under overall command and control of SEOC..

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10. The Relief Operation

Relief in a disaster situation broadly means relief from all the facets of impact that a disaster has subjected the affected populace. Among the disturbances that a disaster brings about are:

- i. dislocation
- ii. deaths
- iii. damages
- iv. destructions and
- v. destitutions

Of these the prime concerns of a relief operation are: dislocation, destitution, debris clearance and disposal of dead bodies of humans and animals in the same sequence.

- i. Dislocation:** The first impact of a disaster is dislocation, that is, disjointment of population from other family and community members, property and place. The first concern of relief operation, therefore, is search, rescue and evacuation. The methods and instruments to use for these vary from hazard to hazard. The search, rescue and evacuation teams have to be, therefore, constituted, trained and equipped hazard wise.

The basic aim of search, rescue and evacuation is to locate the victims of disaster who may be trapped or isolated, bring them to safety and provide them with medical aid, water and food. The prime objective of this exercise is to ensure the survival of the maximum possible number of victims. Besides, bringing about physical and material relief, the aim is also to control panic and confusion and to provide moral support.

Evacuation involves the removal of a population from zones at risk of being affected by an aftermath of disaster. It is a very sensitive exercise in the sense that although people remain in danger, they are reluctant to leave their house (even if partially damaged) and property behind to the extent possible. As compared to search and rescue where the subjects are only too willing to accept support, in evacuation the subjects require persuasion and convincing that to accept support was in their best interest.

- ii. Destitution:** The victims of any disaster are largely destitutes. They are unable to support themselves. It is to provide them with the required support that the relief camps are operated.

The litmus test of a relief operation is in providing shelter which is generally called, relief camps. For, before those dislocated reach a relief camp, they remain in the state of panic and shock and therefore, oblivious of themselves

They are not themselves. But once they are in a relief camp, the normalcy starts dawning on them. And the first call of normal being is to make hue and cry, to demand. The management of a relief camp therefore, is essentially the management of hue and cry, not only of the victims but also of visitors and helpers.

Relief management therefore is in fact management of three kinds of target groups: each one characterized by entirely different set of concerns.

- **Victims of Disaster:** concerned about getting food & water, medical attention etc.
- **Visitors :** concerned about the victims, their needs etc., and
- **Helpers:** concerned about providing supplies & services to the victims , on the one hand, and support for keeping the supply chain alive.

As such, the essential requirements for a Relief Operation are :

- i. Shelter
- ii. Food & Drinking water
- iii. Communication
- iv. Clearance & Access
- v. Water & Power Supplies
- vi. Temporary Subsistence supplies
- vii. Health & Sanitation
- viii. Public Information
- ix. Security
- x. Constriction Requirements
- xi. Disaster Welfare Inquiry

In any relief operation to save human lives and provide relief to the affected communities come first. Livestock and infrastructure always come next.

In disaster situation, livestock is affected equally like humans but with, perhaps, worse predicaments, because 'livestock' do not have the advantages of awareness generation, capacity and capability building exercise. They are entirely dependent on humans who, at the time of disaster, are engrossed in saving their own family members rather than bothering to untie the knots of the noose around the neck of their livestock.

Livestock, therefore, require a separate relief management exercise and, to the extent possible, independent of and removed from relief camps for humans. Some of the relief measures for animals are:

- Stranded and affected livestock in the disaster should be rescued and taken to safer place such as cattle shelter and provided with basic needs for life: feed, fodder and drinking water.
- These should be protected against beasts of prey, poisonous insects, snakes and reptiles.
- Vaccine and medicines should be given to the injured and affected animals.
- Removal of dead animals and disposal of their dead bodies should be given top priority.

iii. Debris Clearance: Debris from collapsed buildings, bridges and other structures as well as uprooted trees, hoardings lead to the disruption of communication services and transportation. Debris clearance, therefore, shall be the first initiative towards re-establishment of transportation and communication network, which, in turn, shall smoothen the search rescue and relief operations.

But debris clearance has to be carried out by a team of technical and duly trained persons.

iv. Disposal of Dead Bodies: Human– Deposal of dead bodies is very important for avoiding the outbreak and spread of diseases.

However, human dead bodies are required to be handled with great care and due respect because of sentimental values attached to the dead. Therefore, the means, process and the manner of their disposal are of great importance. The first step in this regard is to identify the dead bodies. This not only helps in compliance with legal formalities but also in establishing the religions/ethnic identification of the dead. This will help in the suitable disposal of the dead body in accordance with their religious and cultural practices.

Officially, this shall be done by police and if possible, get them to ascertain the causes of death. A proper record for future reference and for issuing of death certificate this may be required.

- v. **Disposal of Dead Animals:** In most natural disaster particularly in rural areas the numbers of animal deaths are very high. Therefore disposal of dead animals is as important as that of humans because decaying dead bodies can be a potential health and environment threats. Therefore, animal dead bodies, without waiting for the extraction of bones and hides for which people generally hold them; have to be done very quickly.

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Check-List
For
RELIEF CAMP (1)

1) Tent Camps

- ❖ The layout of the site shall meet the following specifications:
- ❖ Three-four hectares of land per 1,000 people
- ❖ Ten metres-wide roads
- ❖ Minimum distance of 2 metres between the edge of the roads and tents
- ❖ Minimum distance of 8 metres between tents
- ❖ Minimum floor area of 3 square metres per person

2) For proper water distribution campsites shall have:

- ❖ Tanks with a minimum capacity of 200 litres
- ❖ Minimum capacity per capita 15 litres/day
- ❖ Maximum distance between two tanks should not exceed 100 meters

3) Solid waste disposal containers shall be:

- ❖ Waterproof
- ❖ Insect-proof
- ❖ Rodent-proof
- ❖ Waste should be covered tightly with a plastic or metallic lid
- ❖ Waste should be incinerated or buried

4) Solid waste units shall have a capacity of 1 litre per 4-8 tents or 50-100 litres per 25-50 people

5) Excreta and liquid waste shall be disposed of in bore-holed or deep trench latrines built according to the following specifications:

- ❖ At a distance of 30-50 metres from tents
- ❖ 1 seat/10 persons

- ❖ Modified soakage pits for wastewater to be made by replacing layers of earth and small pebbles with layers of straw, grass or small twigs. The straw needs to be removed on a daily basis and burnt

6) A bench for washing shall be:

- ❖ 3 meters in length
- ❖ Double-sided
- ❖ 2 per 100 persons

7) Buildings

- ❖ Buildings to accommodate victims during relief shall have:
- ❖ Minimum floor area of 35 sq. meter per person
- ❖ Minimum air space of 10 sq. meter per person
- ❖ Minimum air circulation of 30 cubic meter per person per hour
- ❖ Separate washing blocks for men and women

8) Washing Facilities:

1 hand basin per 10 persons

Wash bench of 4-5 meter per 100 persons

1 shower per 50 persons in temperate climates or 1 shower per 30 persons in hot climates

9) Toilet accommodation in buildings housing displaced persons shall meet these requirements:

1 seat per 25 women

1 seat and 1 urinal per 35 men

Maximum distance from building should be 50 meters

Plastic or metal refuse containers with closed lids with 50-100 litre capacity per 25-50 persons

10) Latrines

Depending on the type and duration of the disaster, different types of excreta disposal measures need to be taken in the camps. People must be discouraged from open defecation. The area must be adequately lighted and the approach road must be clearly demarcated. The most suitable types of latrines are:

Shallow trench latrines

Deep-trench latrines

Pit privies
Borehole latrines
Septic privies
Urinals
Mobile latrines

Community latrines

Attempts shall be made to provide community latrines with water, so that cleaning is practical

There shall be separate blocks for men and women

At least five seats per 100 persons

Must be 1.5 km away, and downhill from any water source

The bottom of the latrine shall be at least 15 m above the groundwater table. In the presence of limestone formations and fissured rocks, additional precautions are necessary to protect sources of water supply.

The site shall be dry, well drained and above flood level. The surroundings should be cleared of all vegetation, waste and debris.

Laundry

In temporary encampments people shall be expected to wash their clothes in plastic or iron tubs

One washing stand for every 100 persons is recommended

Proper drainage and soap traps shall be provided for the wastewater

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Check-List
For
RELIEF CAMP (2)

Following standards shall be maintained for food & water supply:

Food

For the Marooned

- ❖ Only non-perishable, ready to eat and long-lasting food items should be included.
- ❖ Food shall be packed in small packets for individual use.
- ❖ Airdropping shall be done from minimum heights with ropes and hooks, to ensure minimum damage to supplies.
- ❖ Supplies shall be dropped from stationary and not moving helicopters.
- ❖ Food shall be tagged first and then distributed.

Storage

- ❖ If possible, food shall be kept in a shade in a dry and cool place.
- ❖ Food shall be kept covered at all times.
- ❖ It should be stored in plastic bags and kept in airtight containers.
- ❖ Salt and spices shall be stored in their original packing
- ❖ To prevent looting, guards shall be posted at warehouses and supply depots.
- ❖ Damaged stocks shall be stored separately to protect the remaining stock from odour and damage.
- ❖ Maintain food stock register and report to appropriate authorities.
- ❖ Prompt transport schedules and delivery of perishable food stocks to the needy at the earliest need to be maintained.

- ❖ Kerosene and other combustible items shall be stored in a separate room. Match boxes are also necessary in such situation.

Cooking (Prepared Food)

- ❖ Community Kitchen with adequate capacity to be catered.
- ❖ If cooking with firewood, a charcoal grill or kerosene stove it shall be done in the open.
- ❖ Canned food shall be heated in a separate container and not in the supply can.

Water

- ❖ People shall be warned of the hazards of drinking contaminated water.
- ❖ Water sources located in the vicinity of sewage outfalls, chemical plants, solid waste disposal fields and abandoned mines shall be avoided.
- ❖ Malodorous, highly coloured or highly polluted water should be avoided.
- ❖ Water suspected of contamination by human or chemical waste shall not be used until it has undergone laboratory analysis.
- ❖ Wells contaminated by the disaster shall be emptied immediately.
- ❖ All debris in wells such as leaves, sticks, silt, mud etc should be removed after the water has been pumped or drawn out.

Chlorine or bleaching powder shall be added to all wells to avoid further contamination.

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